FIG. 1

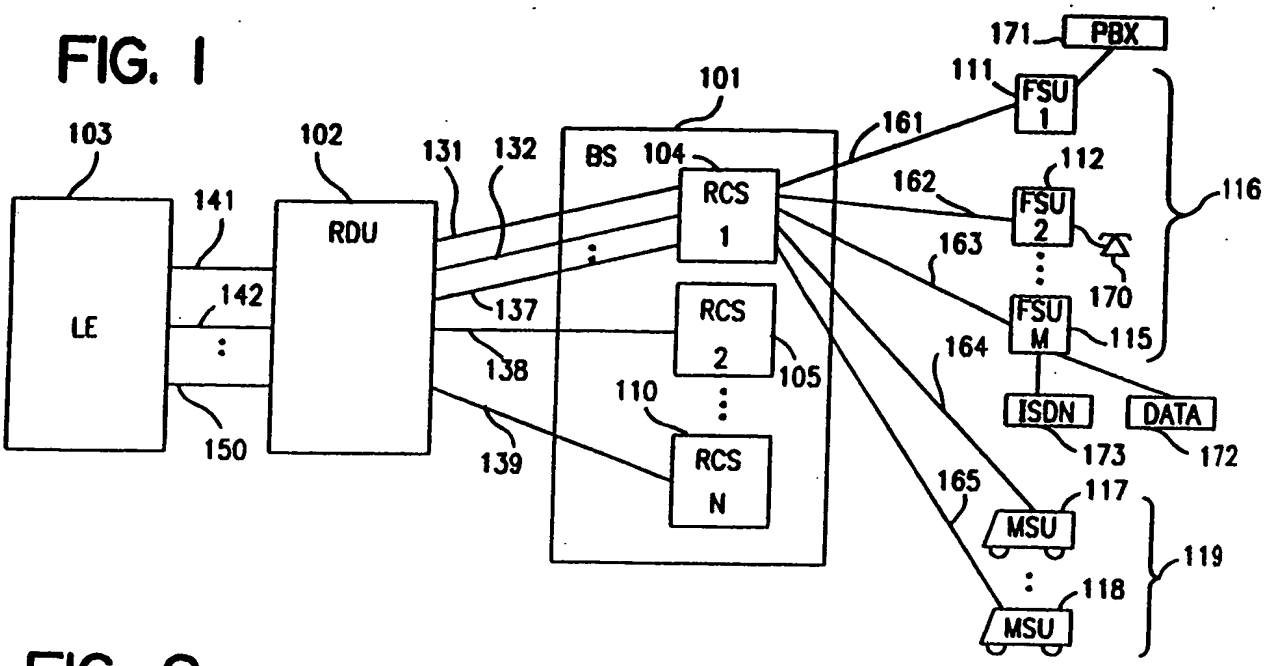


FIG. 2a

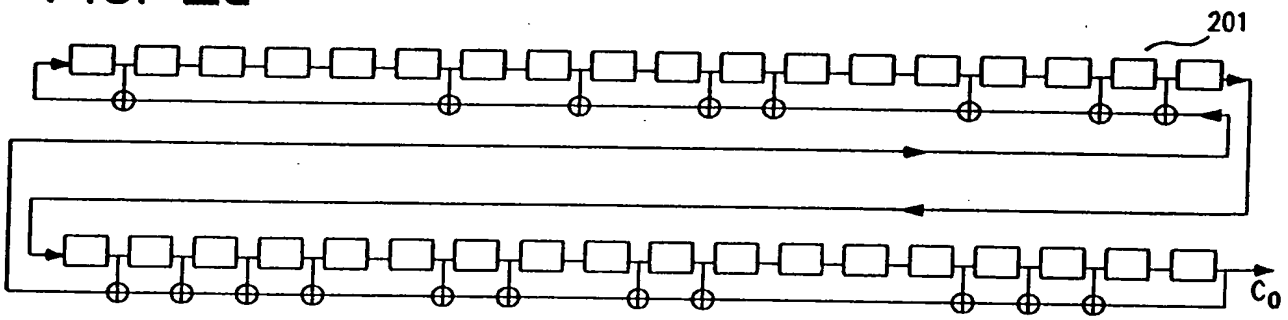


FIG. 2b

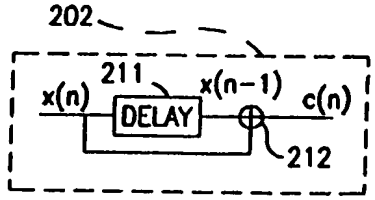
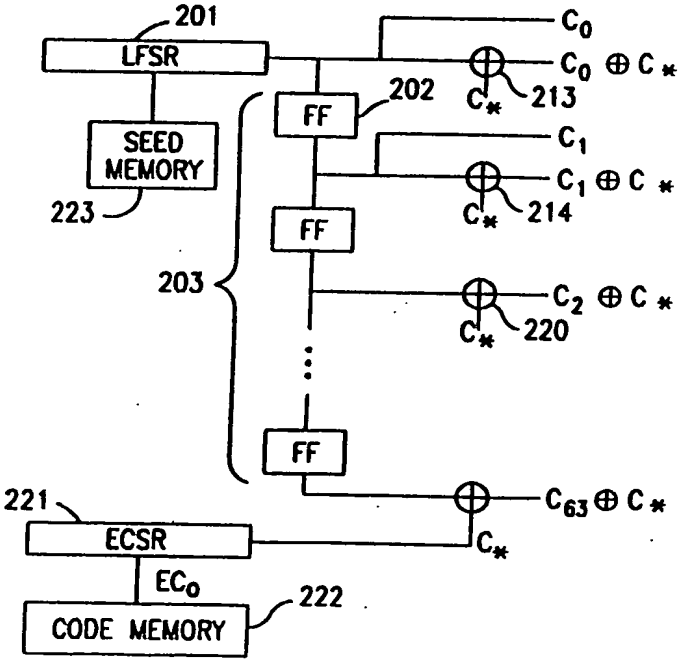


FIG. 2c



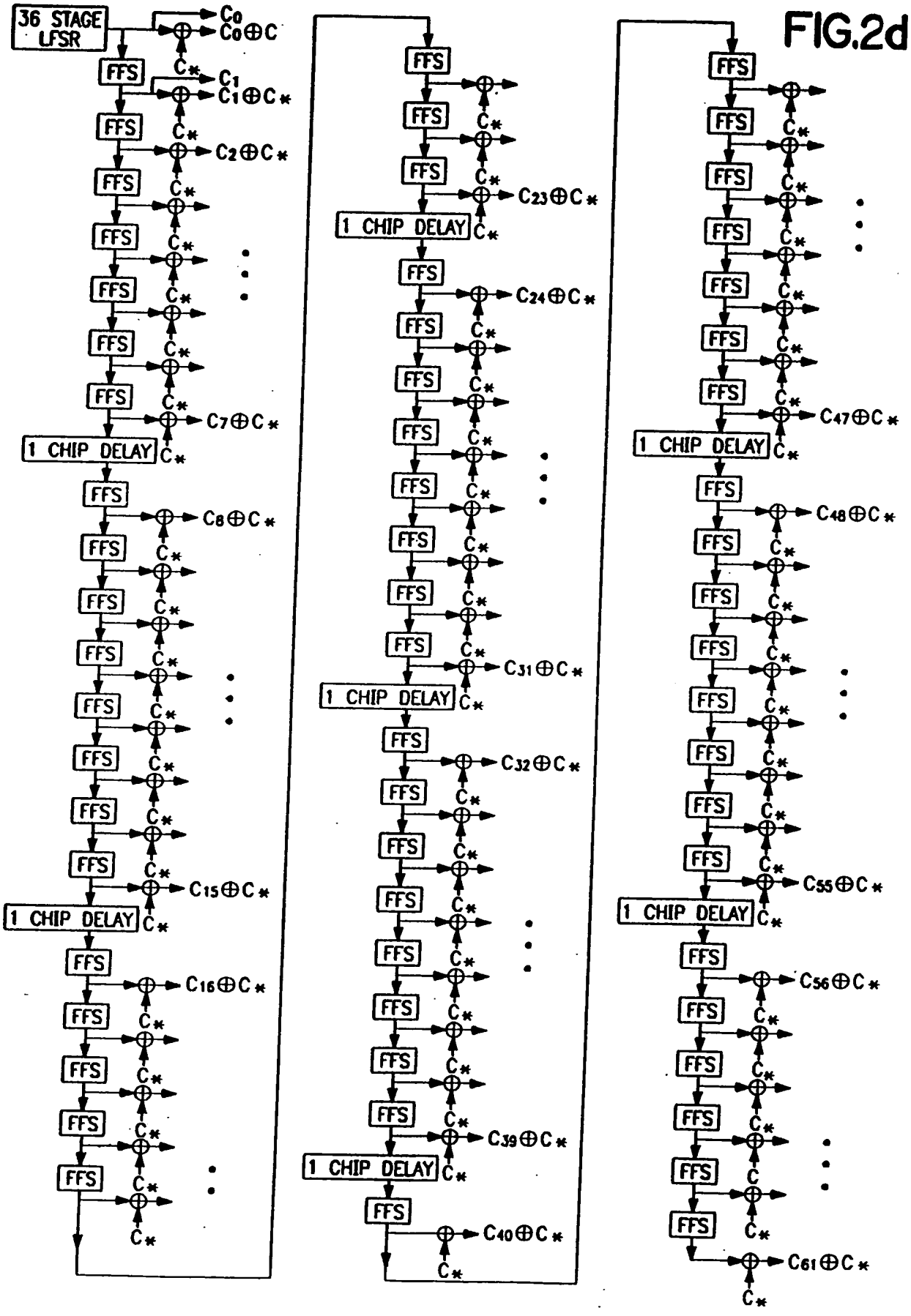

36 STAGE LFSR
FFS
1 CHIP DELAY
C0
C0⊕C*
C1
C1⊕C*
C2⊕C*
C7⊕C*
C8⊕C*
C15⊕C*
C16⊕C*
C23⊕C*
C24⊕C*
C31⊕C*
C32⊕C*
C39⊕C*
C40⊕C*
C47⊕C*
C48⊕C*
C55⊕C*
C56⊕C*
C61⊕C*
C*

FIG.2d

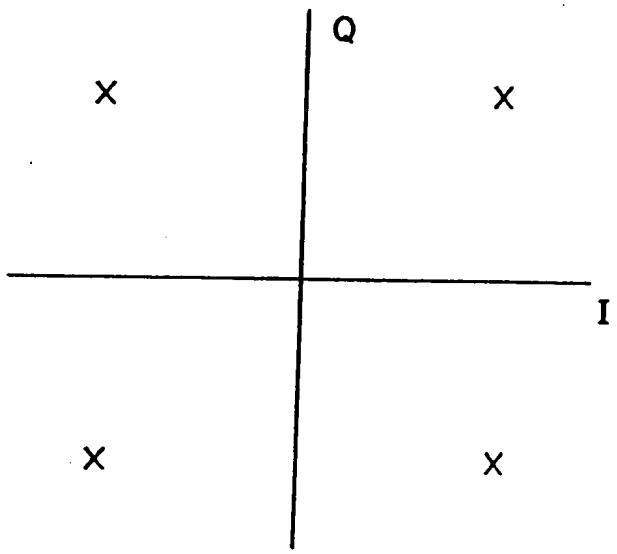


FIG. 3a

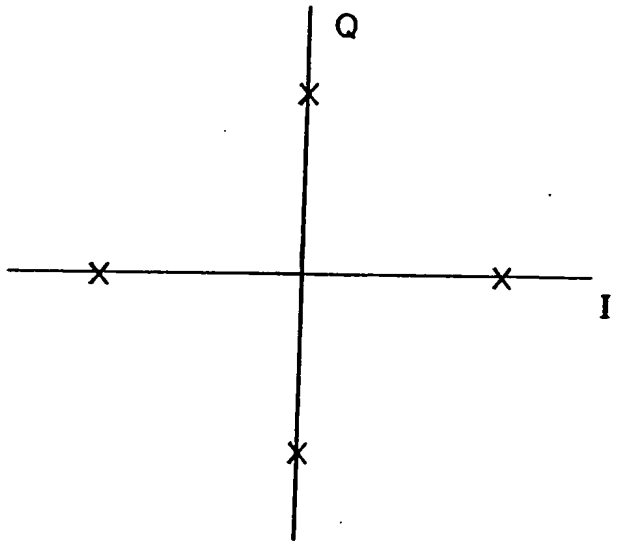


FIG. 3b

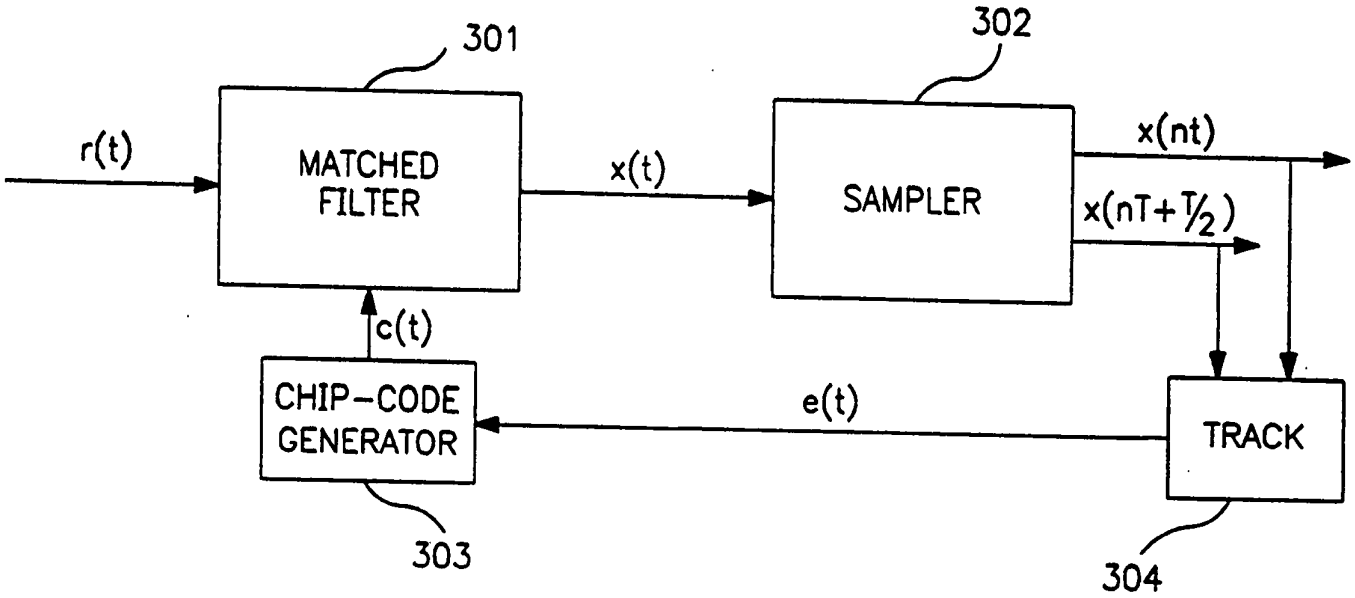

301
302
r(t)
MATCHED FILTER
x(t)
SAMPLER
x(nt)
x(nT+T/2)
c(t)
CHIP-CODE GENERATOR
e(t)
TRACK
303
304

FIG. 3c

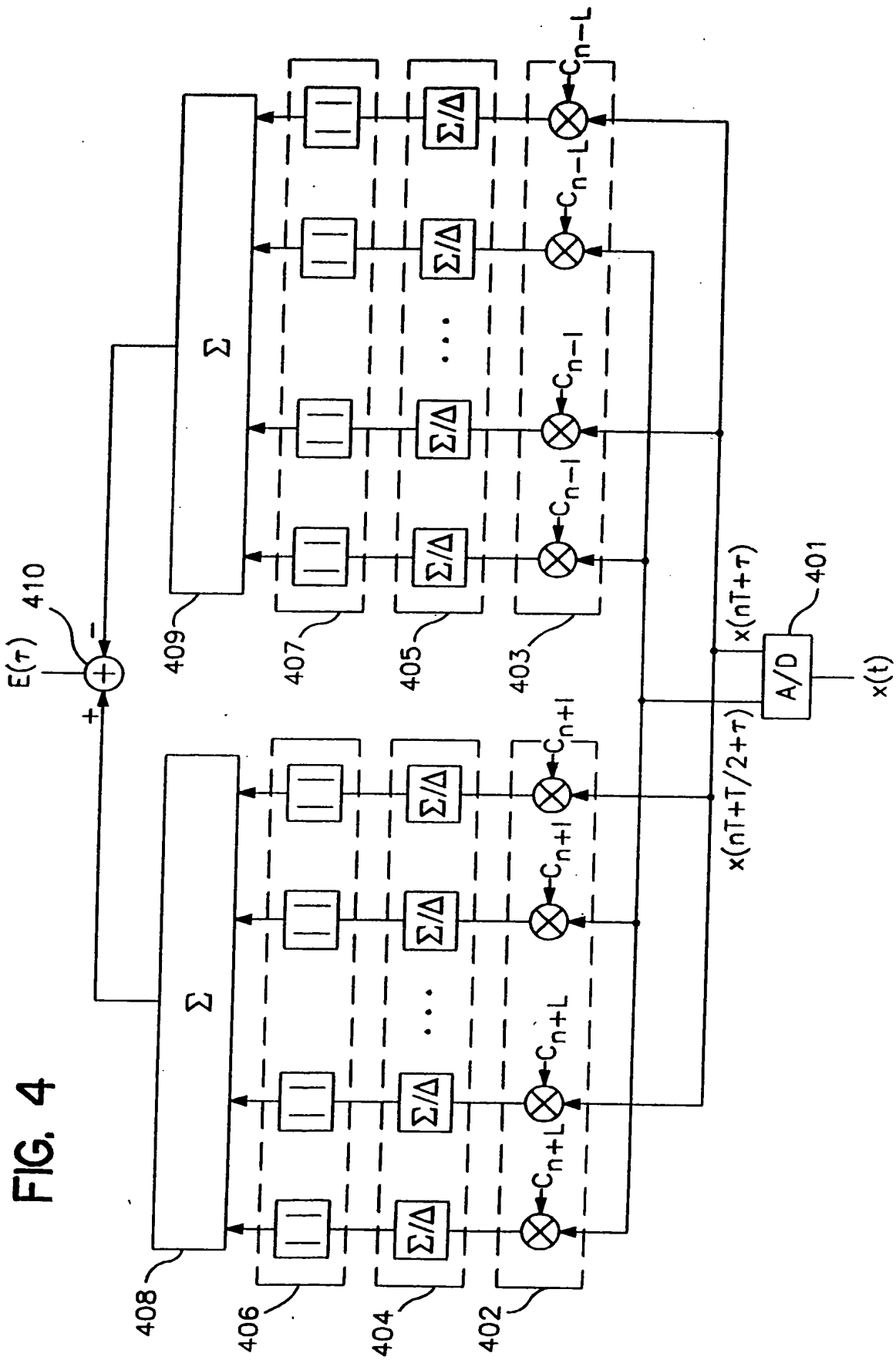

E(τ)
410
−
+
Σ
409
407
405
403
c_{n-L}
c_{n-L}
c_{n-1}
c_{n-1}
Σ/Δ
x(nT+τ)
401
A/D
x(t)
x(nT+T/2+τ)
c_{n+1}
c_{n+1}
c_{n+L}
c_{n+L}
Σ
408
406
404
402

FIG. 4

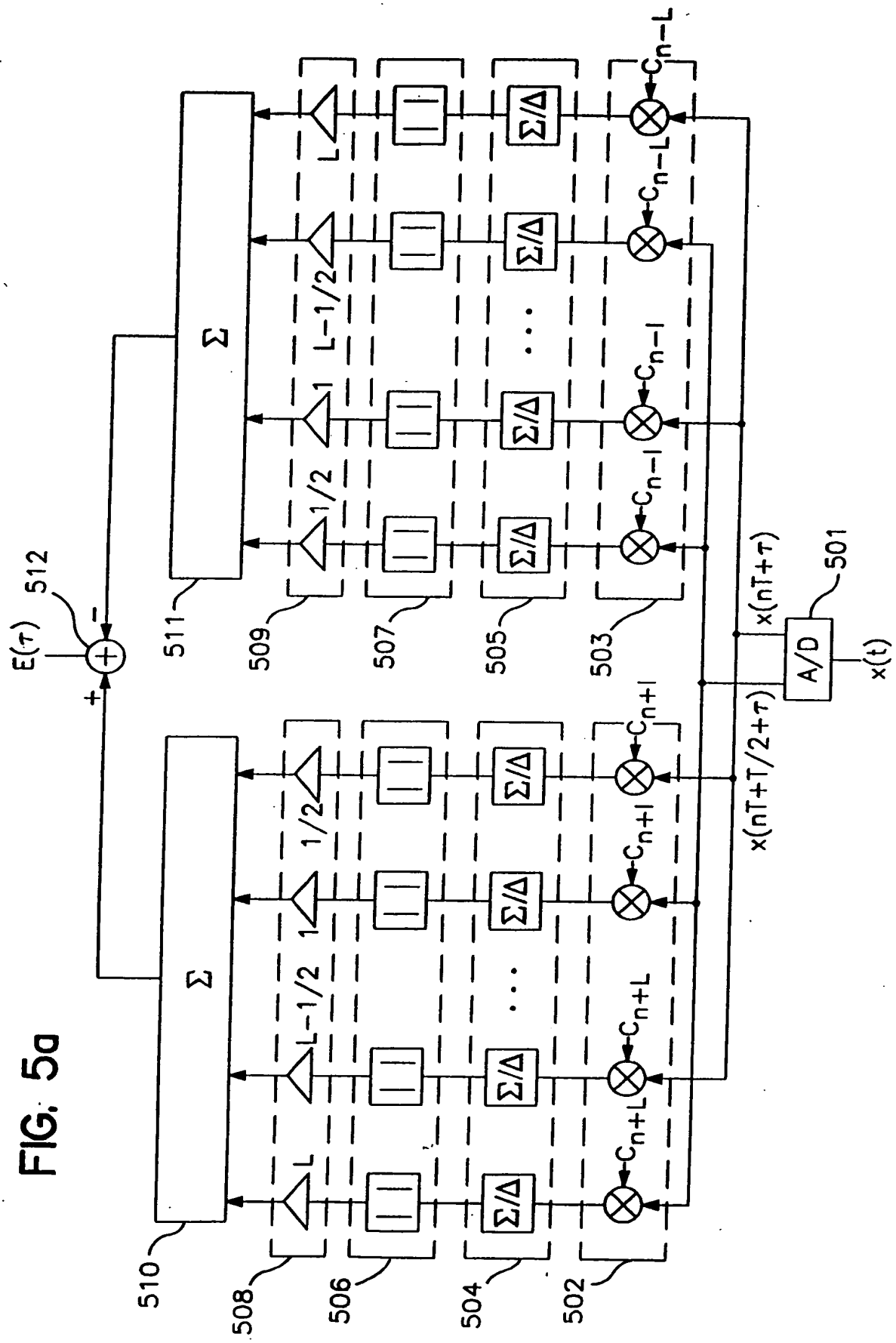
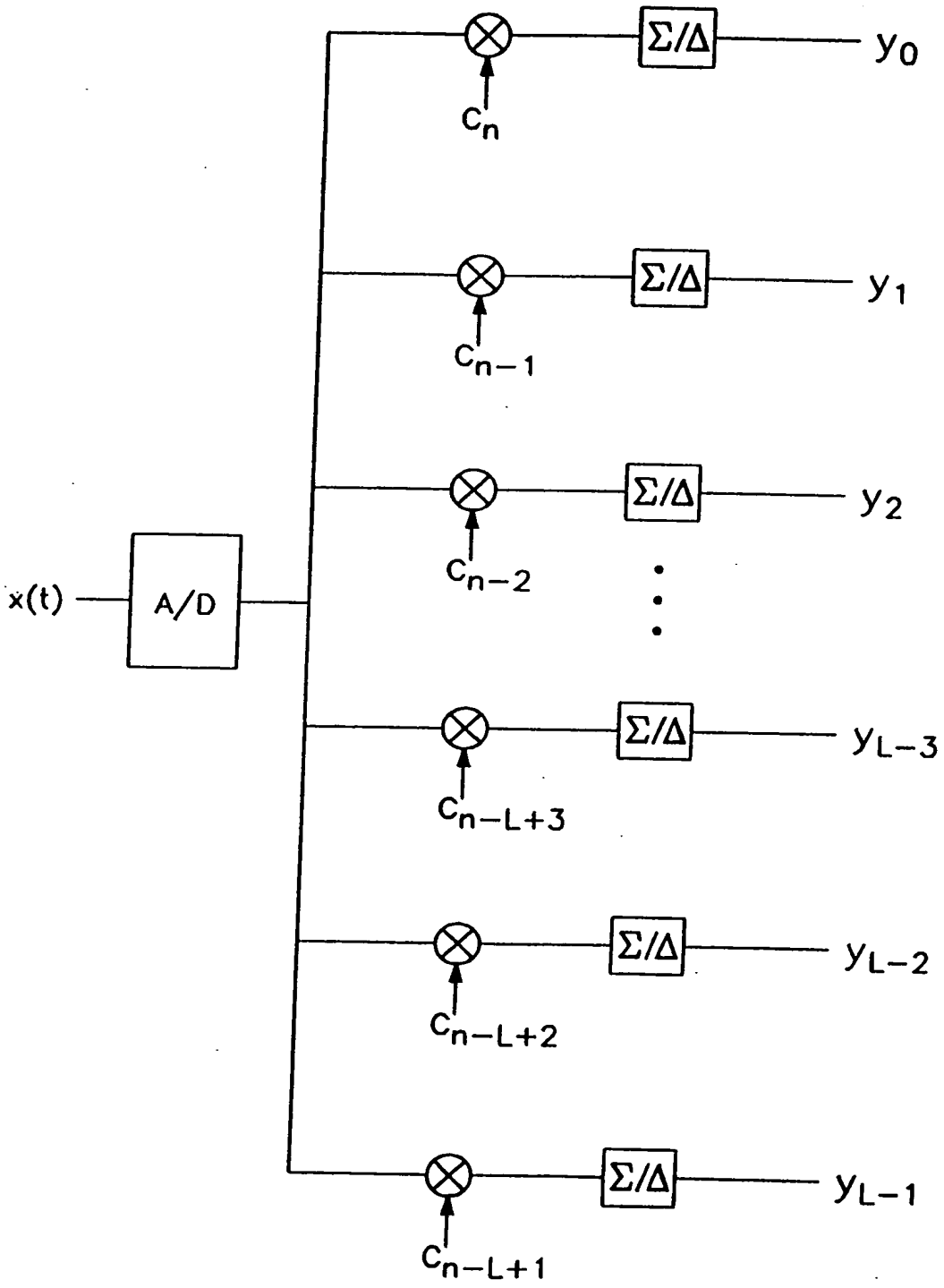

E(τ)
512
+
−
Σ
511
L
L-1/2
1
1/2
509
507
505
503
Σ/Δ
c_{n-L}
c_{n-L}
c_{n-1}
c_{n-1}
x(nT+τ)
501
A/D
x(t)
x(nT+T/2+τ)
c_{n+1}
c_{n+1}
c_{n+L}
c_{n+L}
Σ
510
L
L-1/2
1
1/2
508
506
504
502

FIG. 5a

FIG. 5b



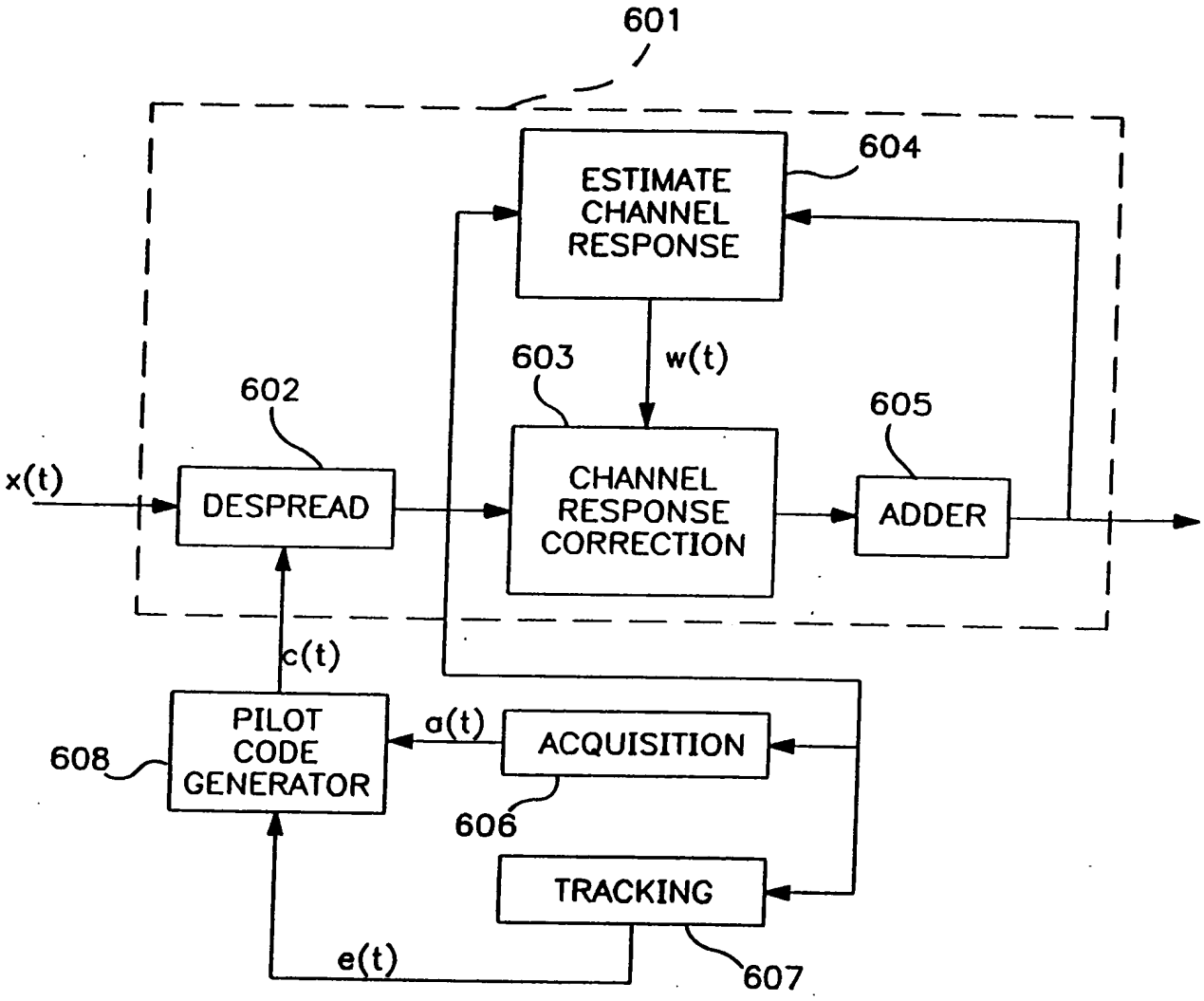

601
ESTIMATE CHANNEL RESPONSE
604
603
w(t)
602
605
x(t)
DESPREAD
CHANNEL RESPONSE CORRECTION
ADDER
c(t)
PILOT CODE GENERATOR
608
a(t)
ACQUISITION
606
TRACKING
e(t)
607

FIG. 6

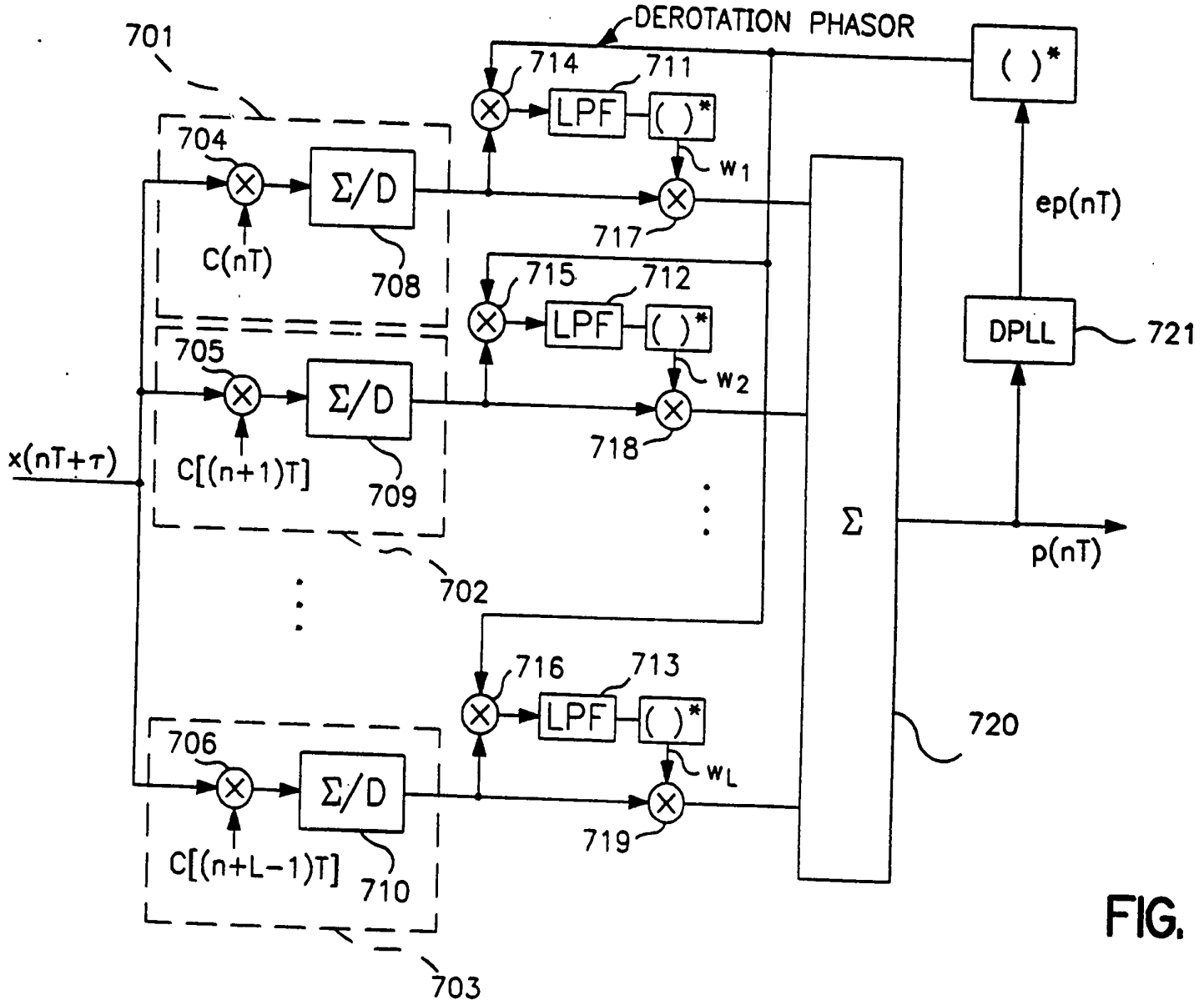

DEROTATION PHASOR
701
714
711
LPF
( )*
704
Σ/D
C(nT)
708
w1
717
( )*
ep(nT)
715
712
LPF
( )*
705
Σ/D
C[(n+1)T]
709
w2
718
DPLL
721
x(nT+τ)
Σ
p(nT)
702
716
713
LPF
( )*
720
706
Σ/D
C[(n+L-1)T]
710
wL
719
703

FIG. 7

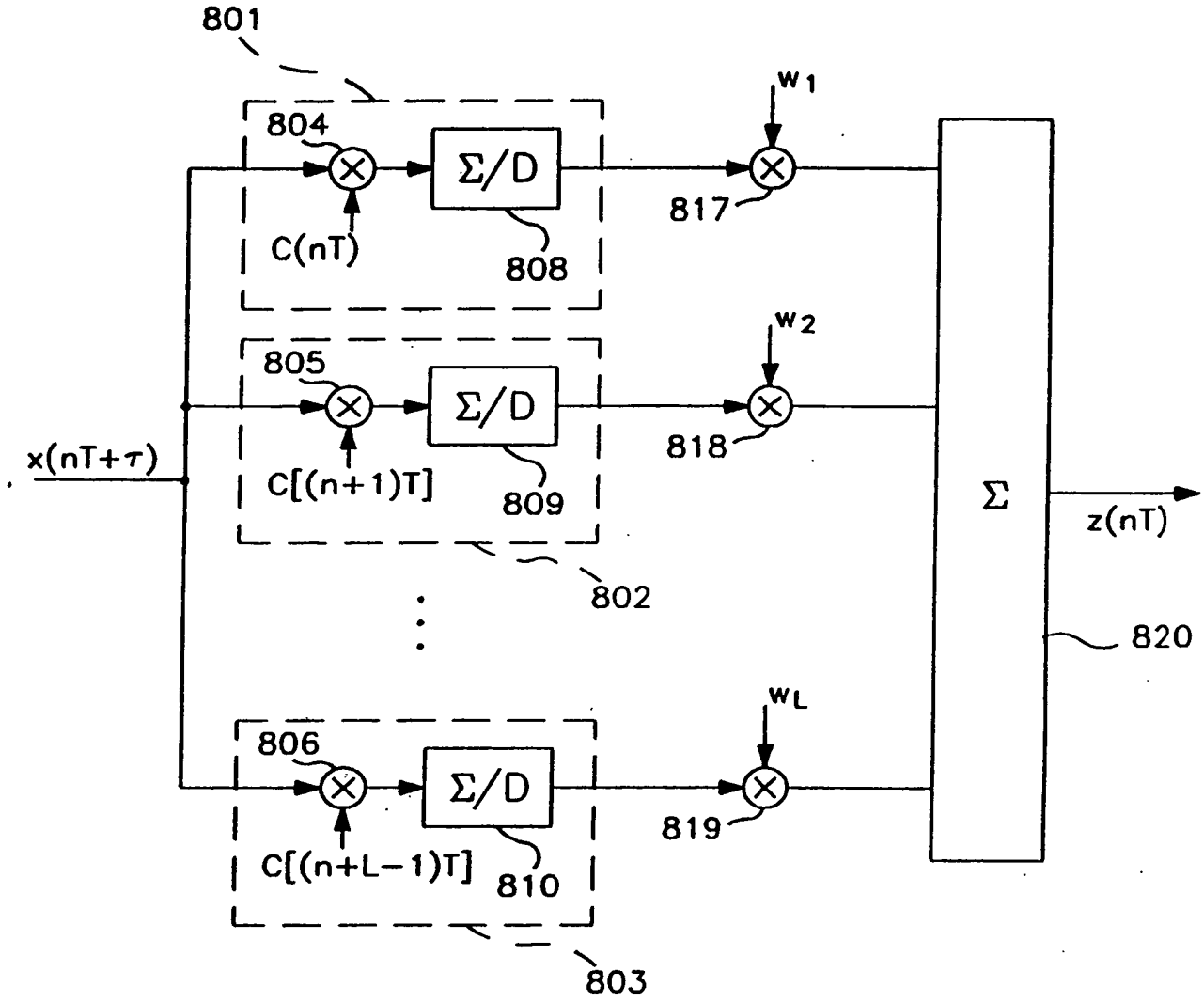

801
804
Σ/D
C(nT)
808
817
w1
805
Σ/D
C[(n+1)T]
809
818
w2
x(nT+τ)
802
Σ
z(nT)
820
806
Σ/D
C[(n+L−1)T]
810
819
wL
803

FIG. 8a

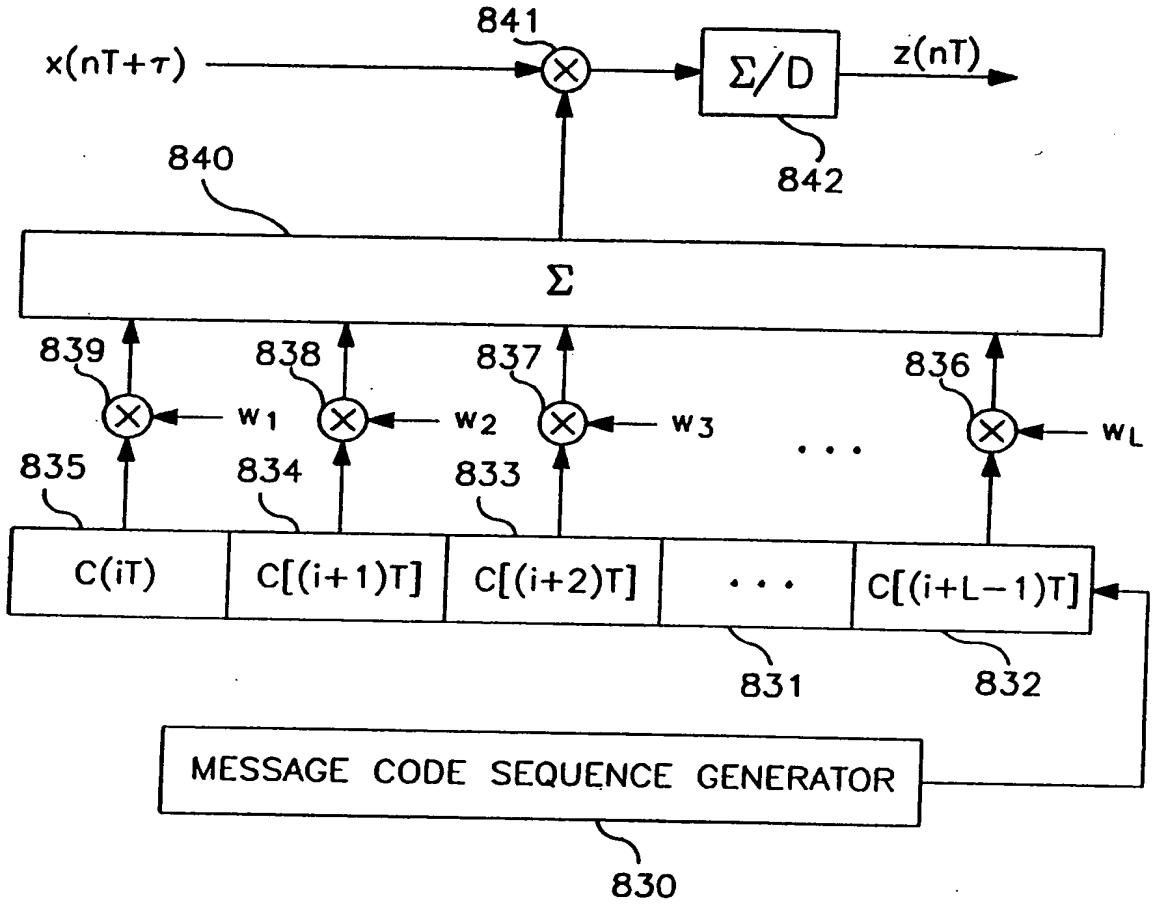

x(nT+τ)
841
Σ/D
z(nT)
842
840
Σ
839
838
837
836
w1
w2
w3
wL
835
834
833
C(iT)
C[(i+1)T]
C[(i+2)T]
C[(i+L−1)T]
831
832
MESSAGE CODE SEQUENCE GENERATOR
830

FIG. 8b

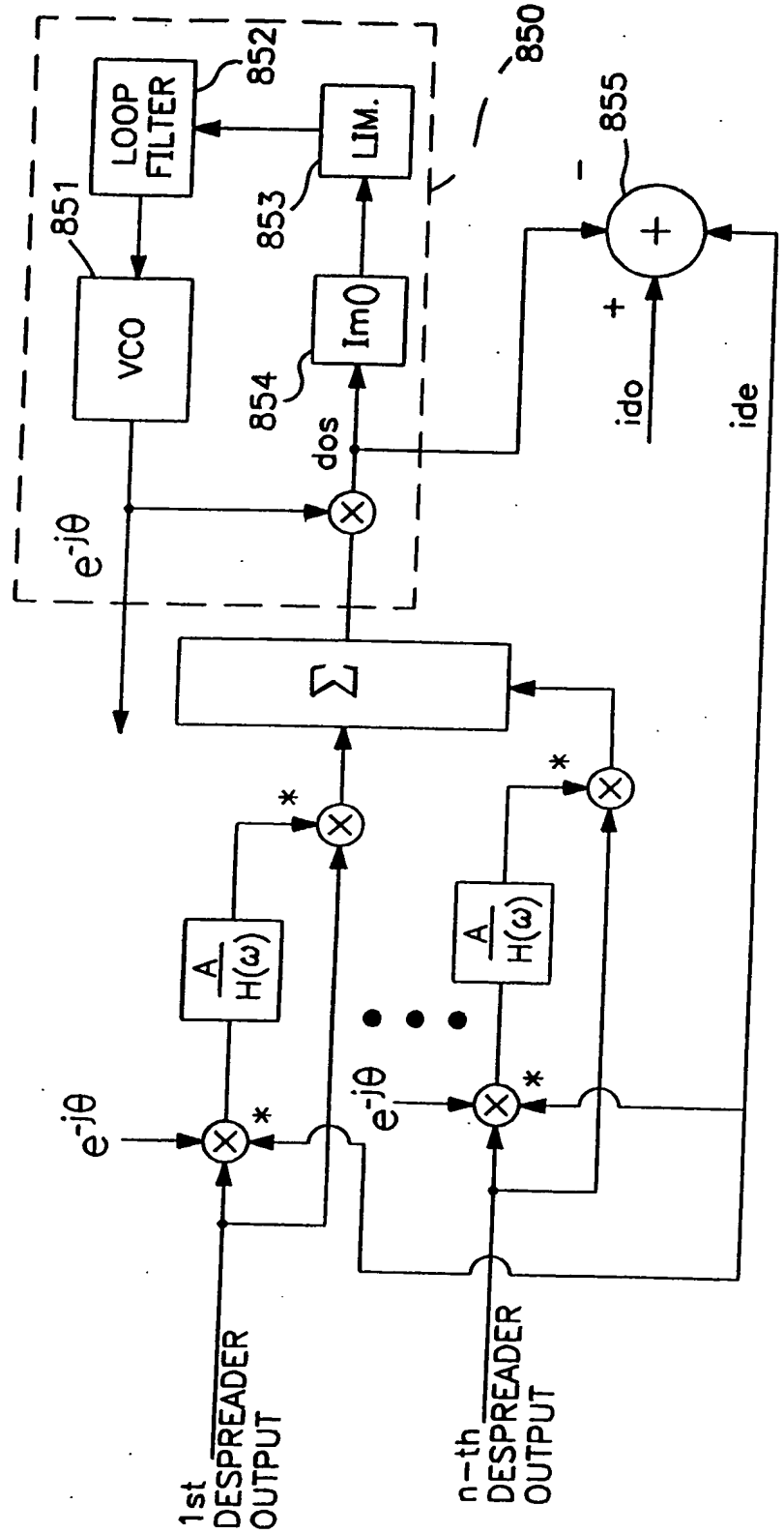

1st DESPREADER OUTPUT
n-th DESPREADER OUTPUT
$e^{-j\theta}$
$e^{-j\theta}$
$\frac{A}{H(\omega)}$
$\frac{A}{H(\omega)}$
*
*
*
*
Σ
$e^{-j\theta}$
VCO
LOOP FILTER
LIM.
Im0
dos
851
852
853
854
850
855
+
−
ido
ide

FIG. 8c

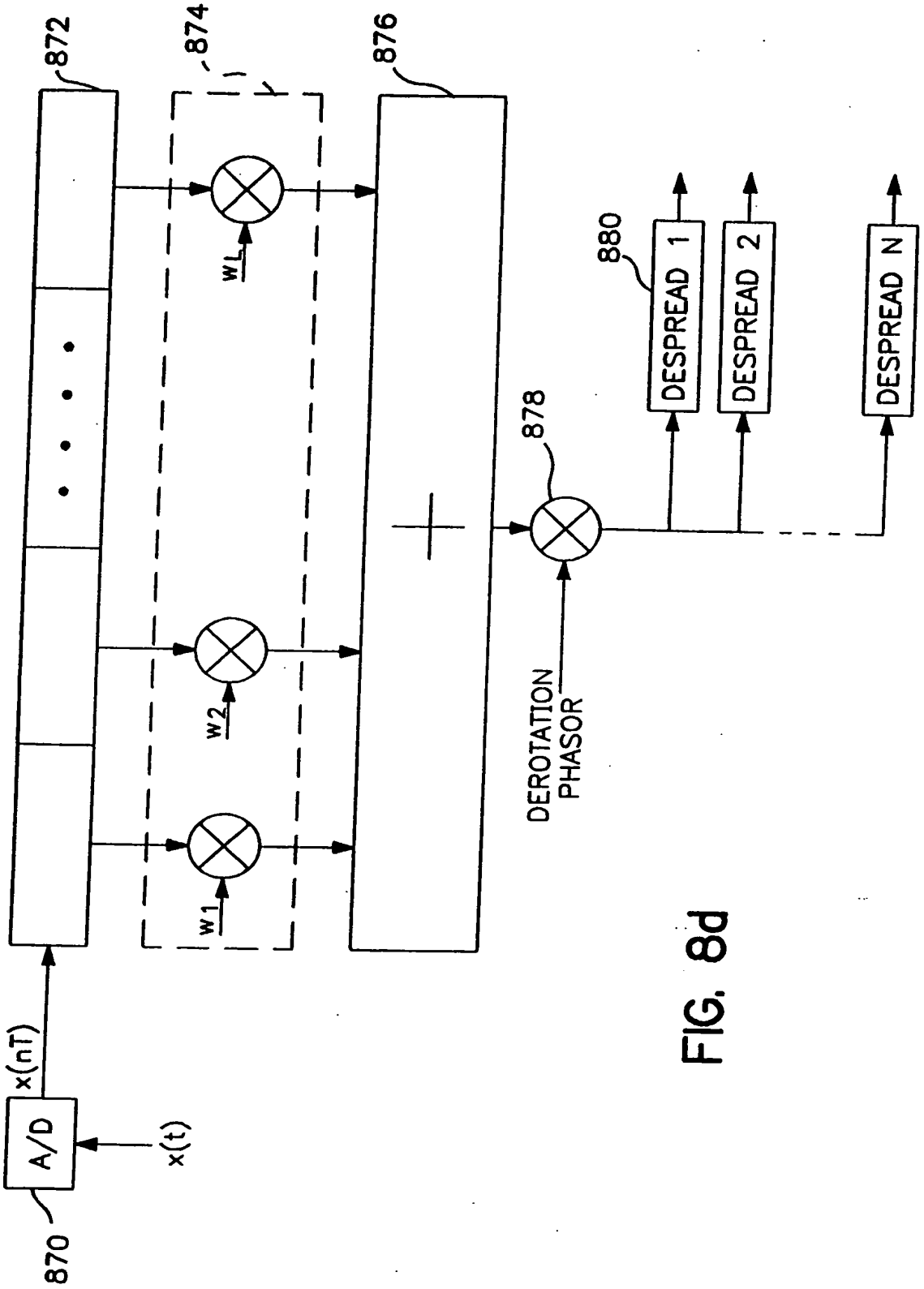

870
A/D
x(t)
x(nT)
872
874
876
W1
W2
WL
878
DEROTATION PHASOR
880
DESPREAD 1
DESPREAD 2
DESPREAD N

FIG. 8d

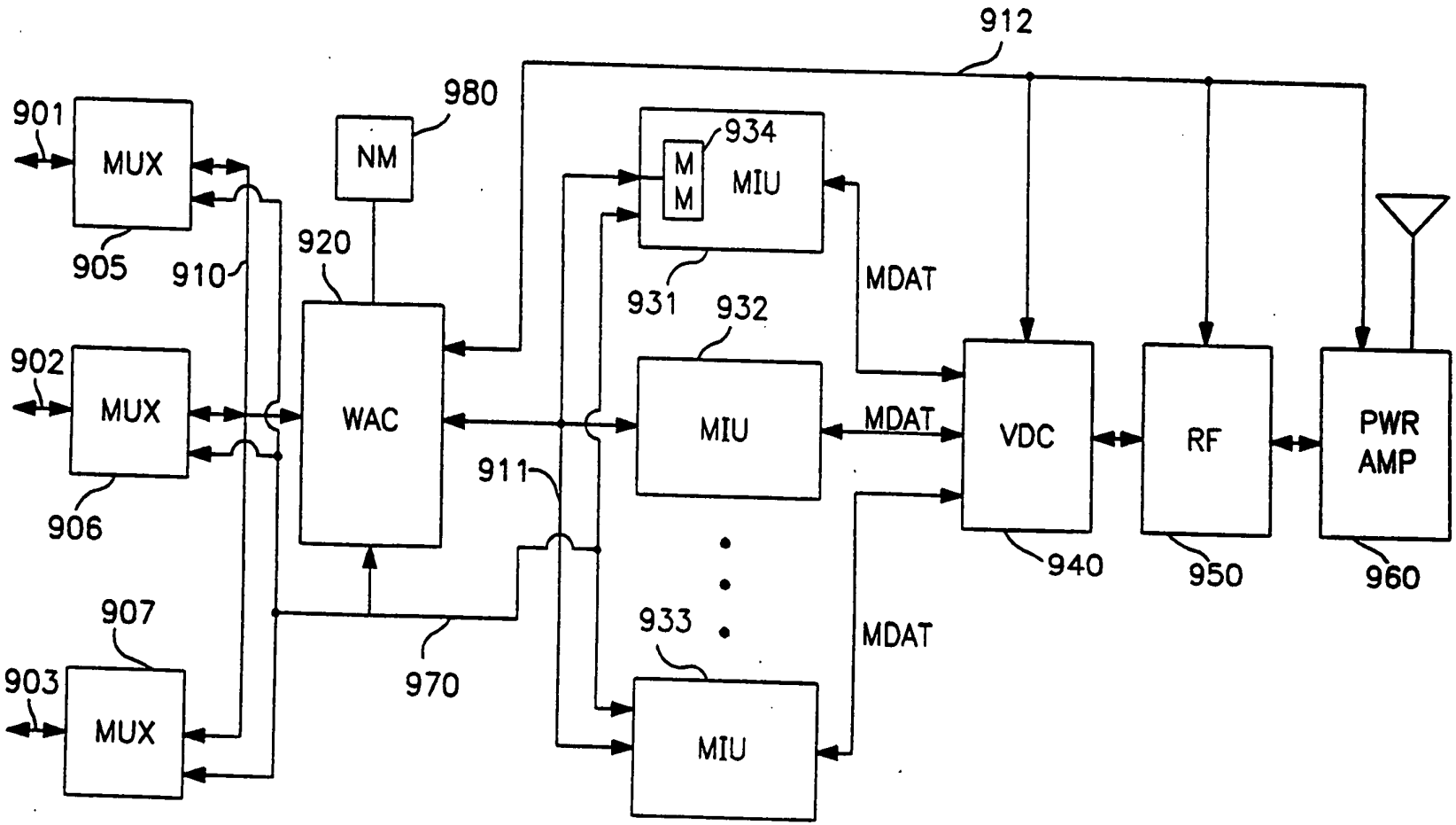

912
980
901
MUX
NM
934
M
M
MIU
905
910
920
931
932
MDAT
902
MUX
WAC
MIU
MDAT
VDC
RF
PWR
AMP
911
906
940
950
960
907
933
MDAT
903
MUX
970
MIU

FIG. 9

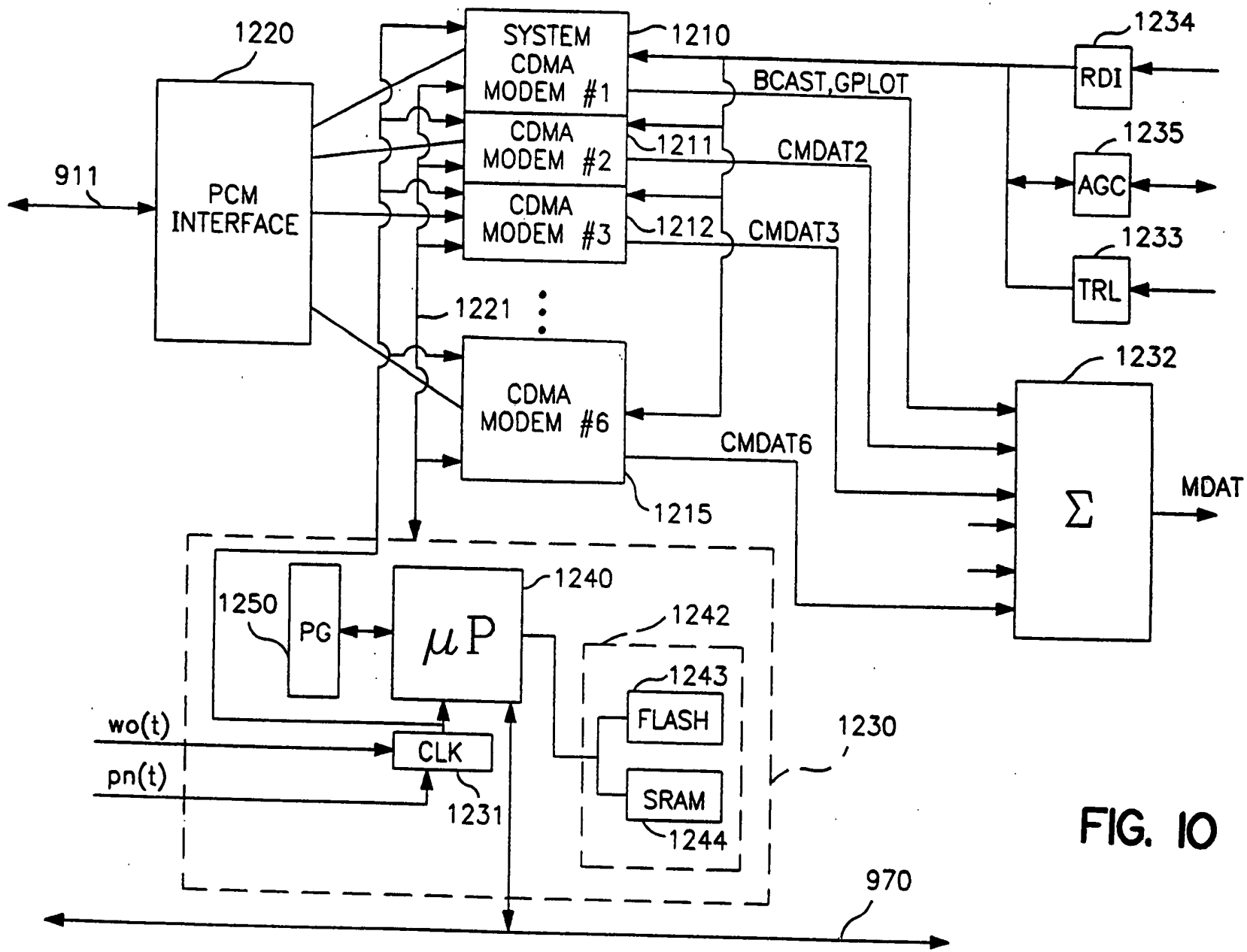

1220
SYSTEM CDMA MODEM #1
1210
1234
RDI
BCAST,GPLOT
CDMA MODEM #2
1211
CMDAT2
1235
AGC
911
PCM INTERFACE
CDMA MODEM #3
1212
CMDAT3
1233
TRL
1221
1232
CDMA MODEM #6
CMDAT6
Σ
MDAT
1215
1240
1250
PG
μP
1242
1243
FLASH
1230
wo(t)
CLK
pn(t)
1231
SRAM
1244
970

FIG. 10

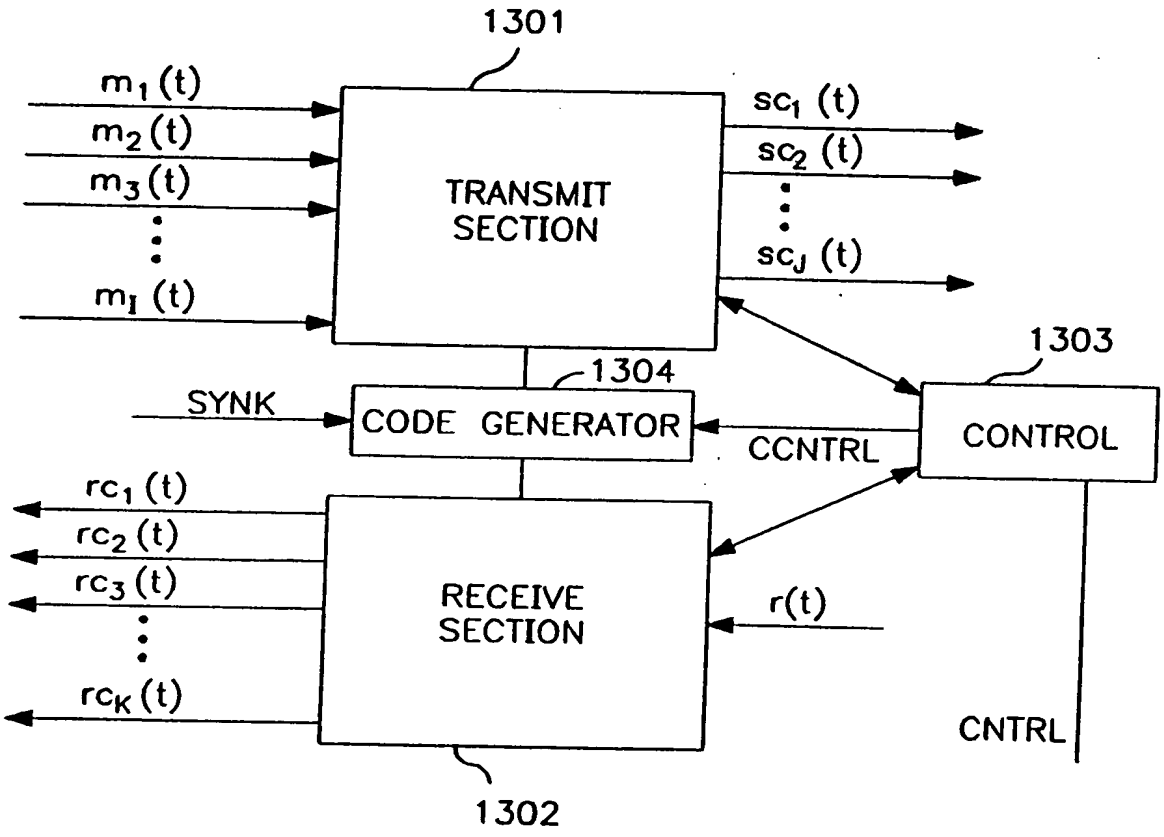

1301
$m_1(t)$
$m_2(t)$
$m_3(t)$
$m_I(t)$
TRANSMIT SECTION
$sc_1(t)$
$sc_2(t)$
$sc_J(t)$
1303
1304
SYNK
CODE GENERATOR
CCNTRL
CONTROL
$rc_1(t)$
$rc_2(t)$
$rc_3(t)$
$rc_K(t)$
RECEIVE SECTION
r(t)
CNTRL
1302

FIG. 11

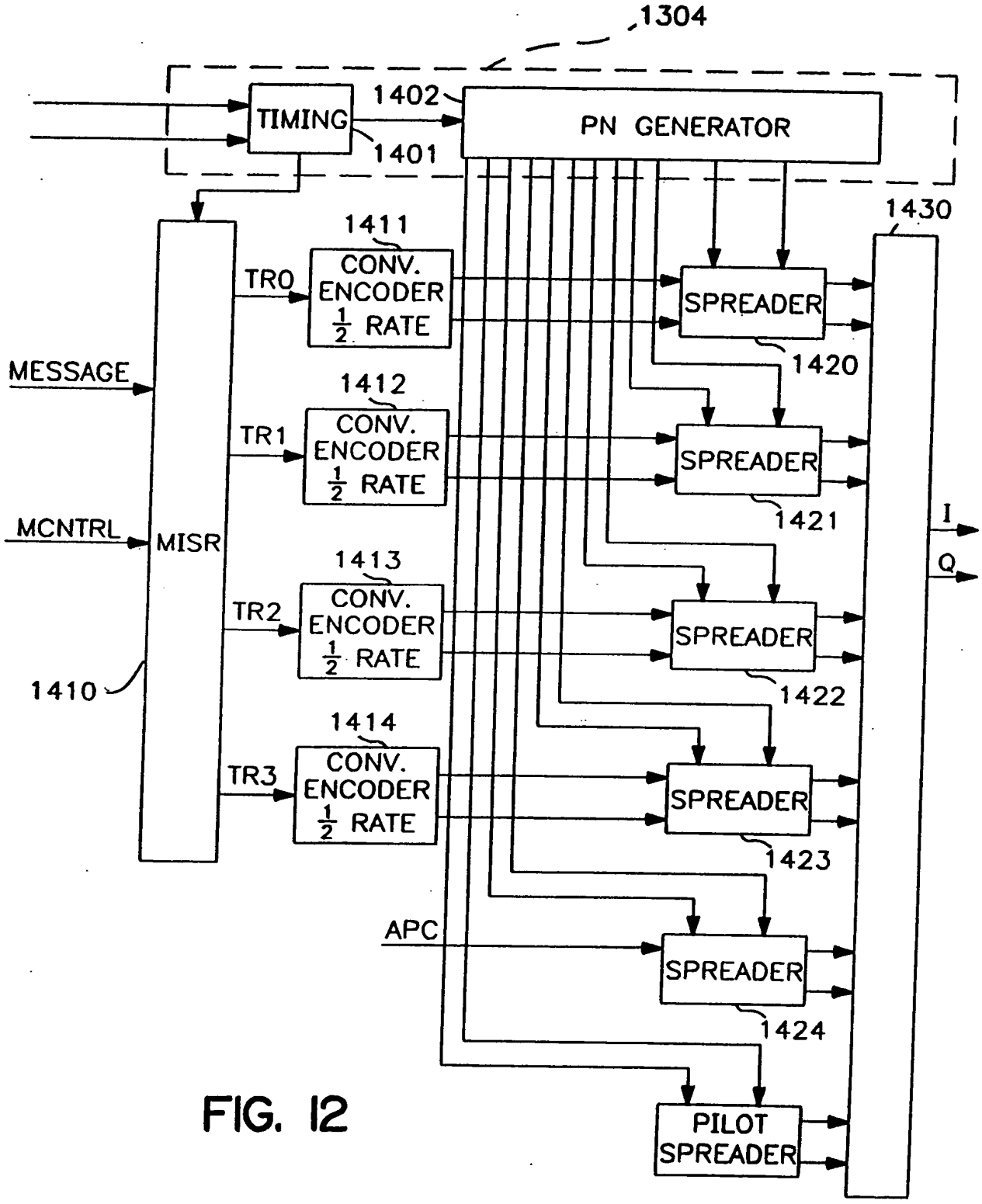

1304
TIMING
1402
1401
PN GENERATOR
1430
1411
CONV. ENCODER ½ RATE
TR0
SPREADER
1420
MESSAGE
1412
CONV. ENCODER ½ RATE
TR1
SPREADER
1421
MCNTRL
MISR
I
Q
1413
CONV. ENCODER ½ RATE
TR2
SPREADER
1422
1410
1414
CONV. ENCODER ½ RATE
TR3
SPREADER
1423
APC
SPREADER
1424
PILOT SPREADER

FIG. 12

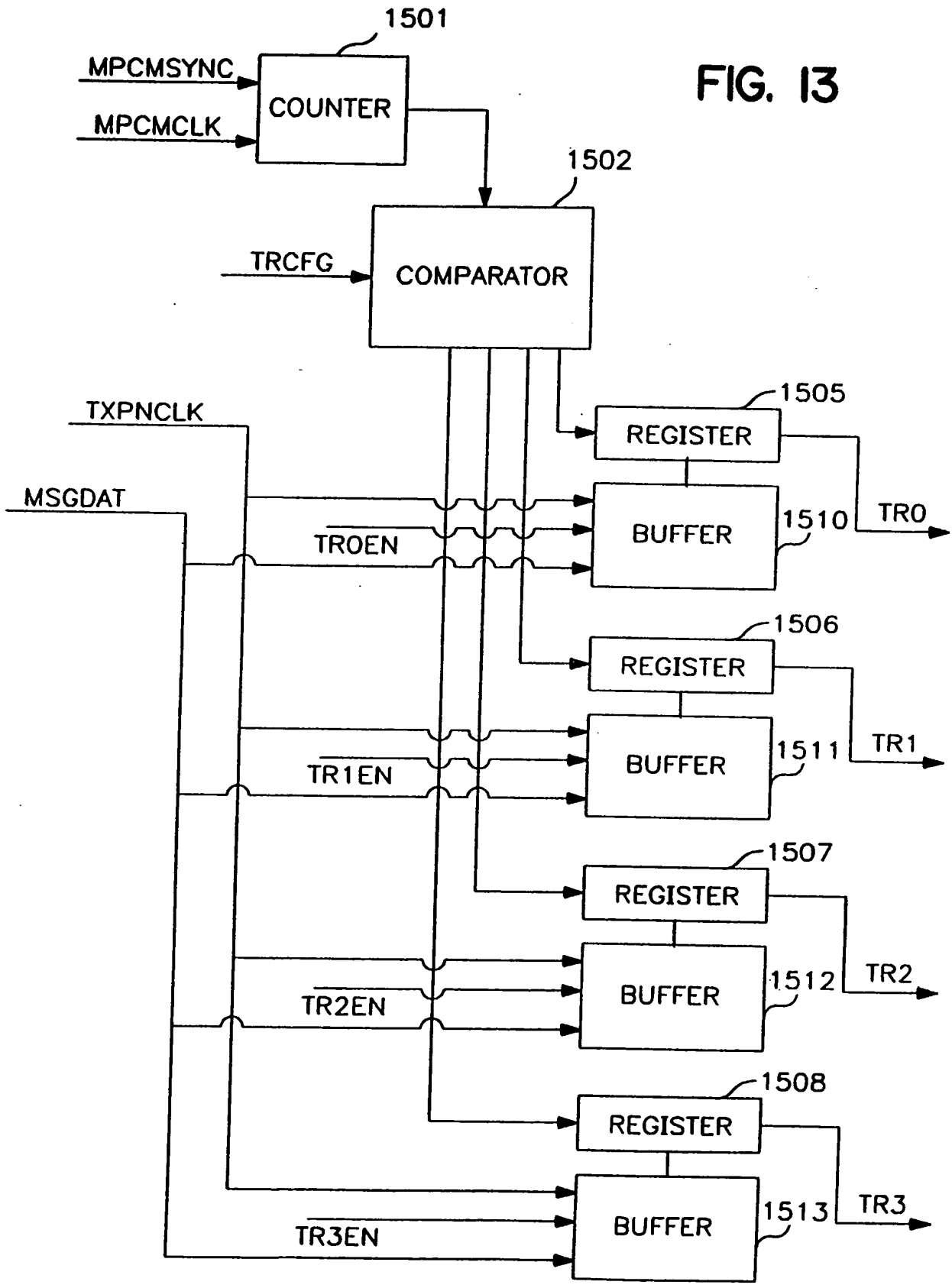

1501
MPCMSYNC
MPCMCLK
COUNTER
1502
TRCFG
COMPARATOR
TXPNCLK
MSGDAT
1505
REGISTER
BUFFER
1510
TR0
TR0EN
1506
REGISTER
BUFFER
1511
TR1
TR1EN
1507
REGISTER
BUFFER
1512
TR2
TR2EN
1508
REGISTER
BUFFER
1513
TR3
TR3EN

FIG. 13

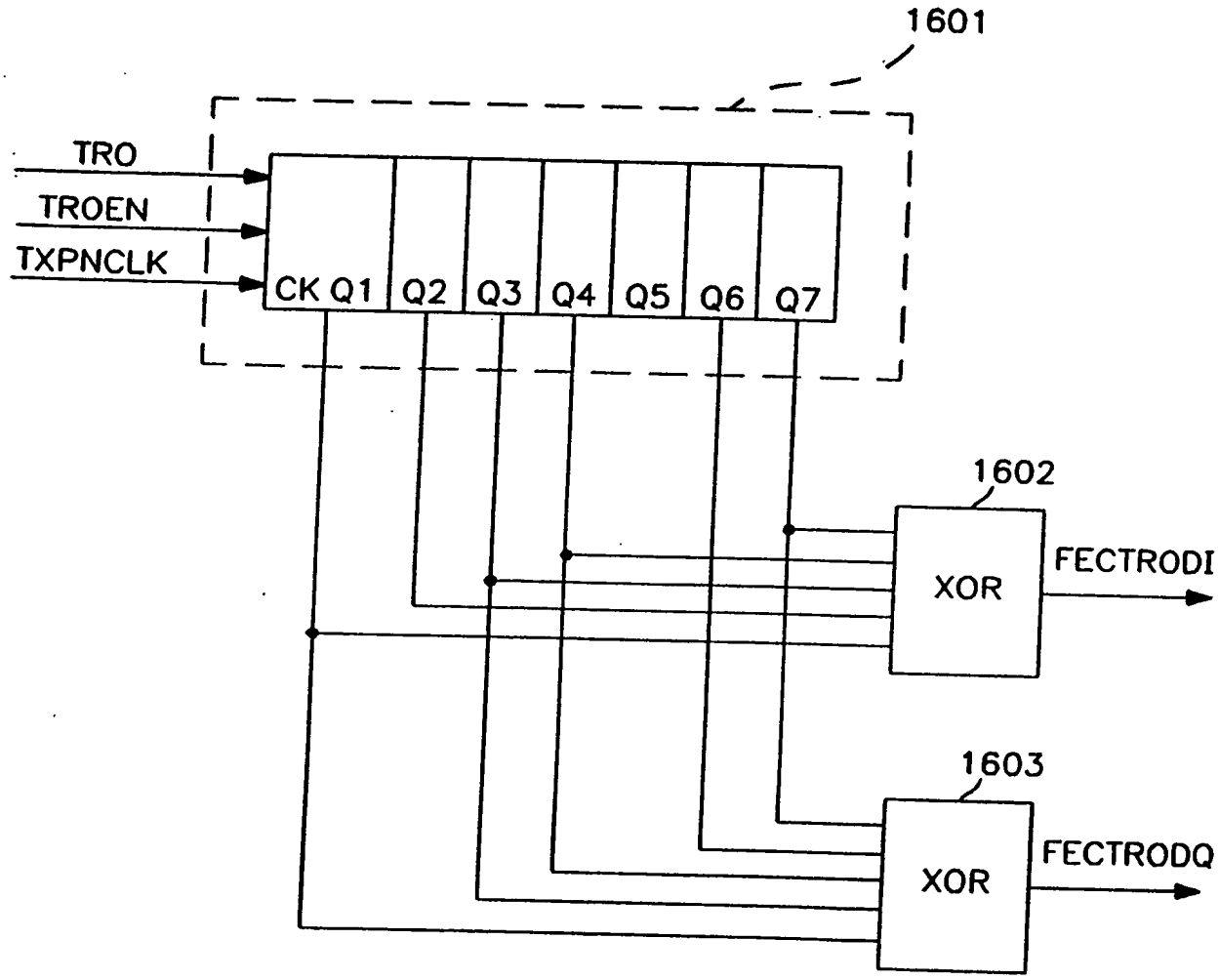

1601
TRO
TROEN
TXPNCLK
CK Q1
Q2
Q3
Q4
Q5
Q6
Q7
1602
XOR
FECTRODI
1603
XOR
FECTRODQ

FIG. 14

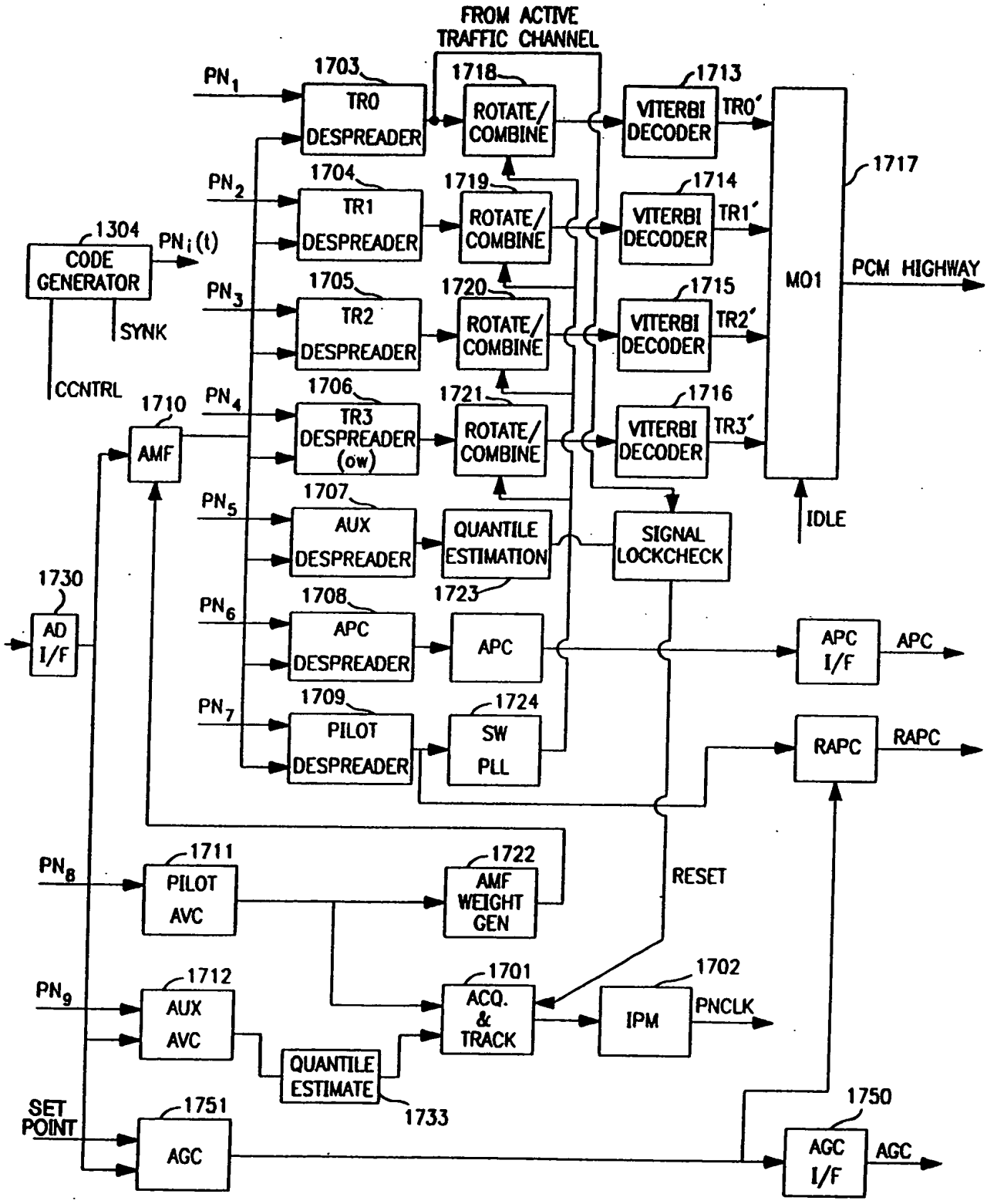

FROM ACTIVE TRAFFIC CHANNEL
PN1
1703
TR0 DESPREADER
1718
ROTATE/ COMBINE
1713
VITERBI DECODER
TR0'
1717
PN2
1704
TR1 DESPREADER
1719
ROTATE/ COMBINE
1714
VITERBI DECODER
TR1'
1304
CODE GENERATOR
PNi(t)
SYNK
CCNTRL
PN3
1705
TR2 DESPREADER
1720
ROTATE/ COMBINE
1715
VITERBI DECODER
TR2'
MO1
PCM HIGHWAY
PN4
1706
TR3 DESPREADER (ow)
1721
ROTATE/ COMBINE
1716
VITERBI DECODER
TR3'
1710
AMF
PN5
1707
AUX DESPREADER
QUANTILE ESTIMATION
1723
SIGNAL LOCKCHECK
IDLE
1730
AD I/F
PN6
1708
APC DESPREADER
APC
APC I/F
APC
PN7
1709
PILOT DESPREADER
1724
SW PLL
RAPC
RAPC
PN8
1711
PILOT AVC
1722
AMF WEIGHT GEN
RESET
PN9
1712
AUX AVC
1701
ACQ. & TRACK
1702
IPM
PNCLK
QUANTILE ESTIMATE
1733
SET POINT
1751
AGC
1750
AGC I/F
AGC

FIG. 15

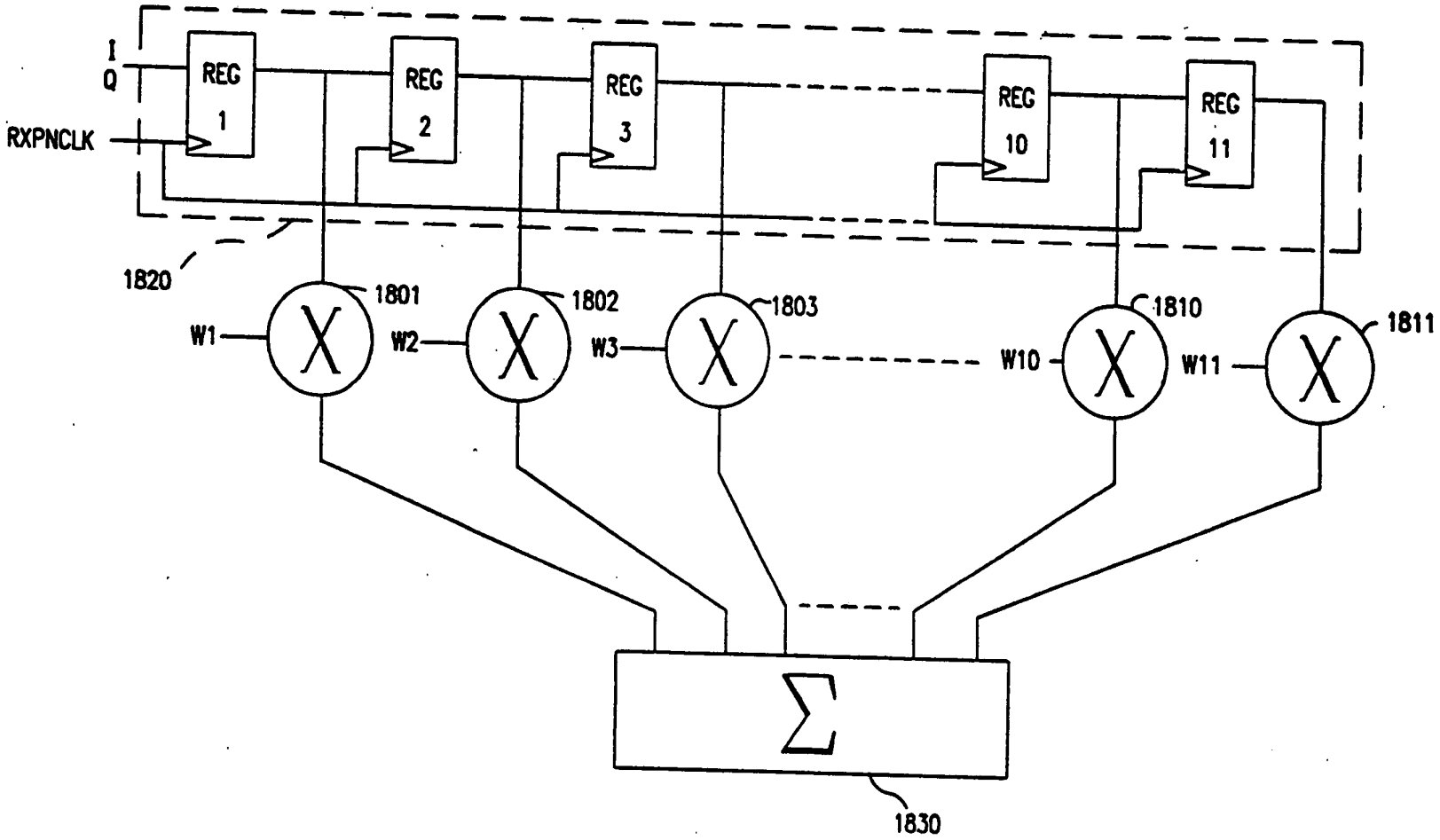

I
Q
RXPNCLK
REG 1
REG 2
REG 3
REG 10
REG 11
1820
1801
1802
1803
1810
1811
W1
W2
W3
W10
W11
X
Σ
1830

FIG. 16

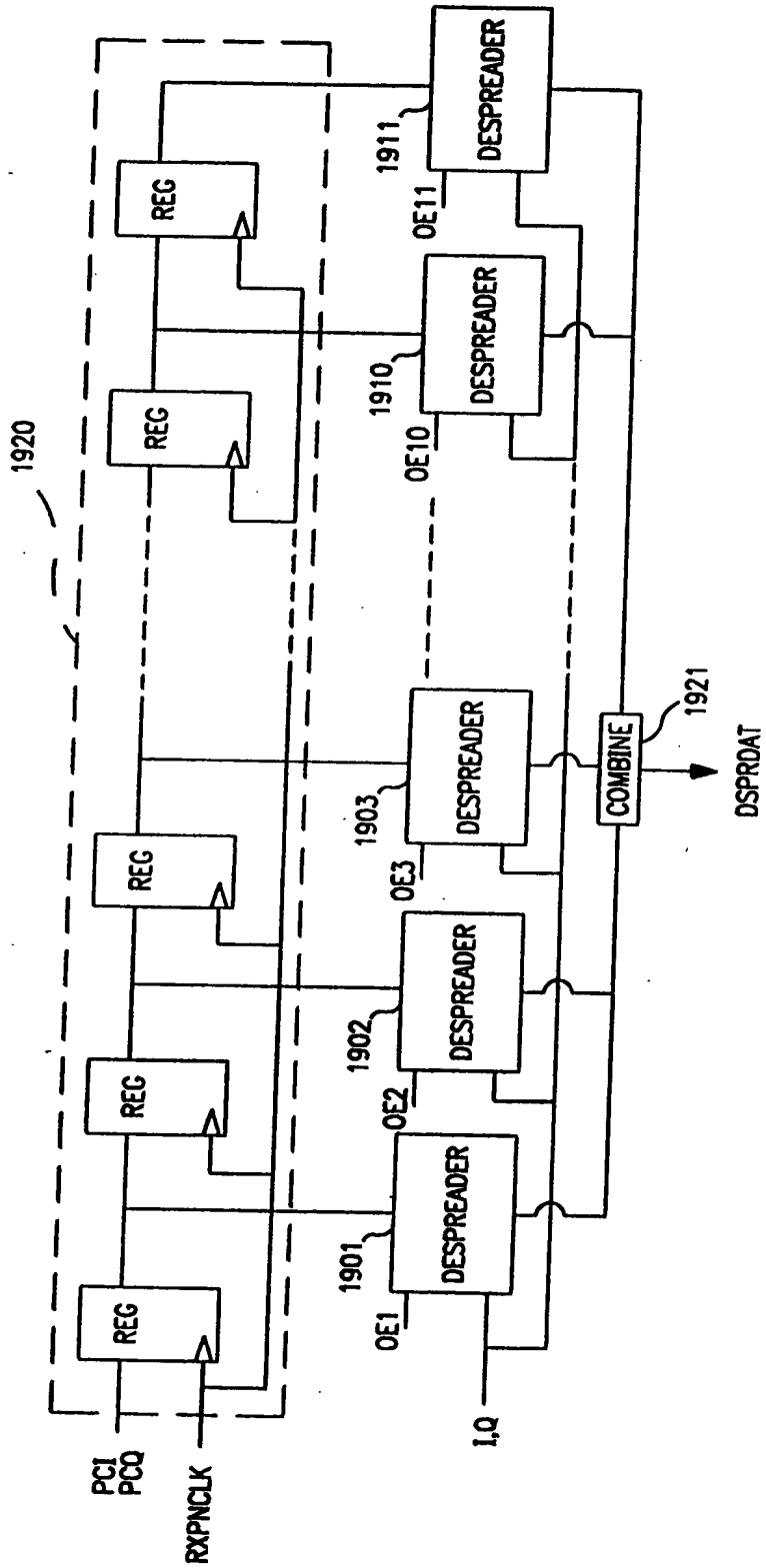

1920
REG
REG
REG
REG
REG
PCI
PCQ
RXPNCLK
1911
DESPREADER
OE11
1910
DESPREADER
OE10
1903
DESPREADER
OE3
1902
DESPREADER
OE2
1901
DESPREADER
OE1
I,Q
COMBINE
1921
DSPRDAT

FIG. 17

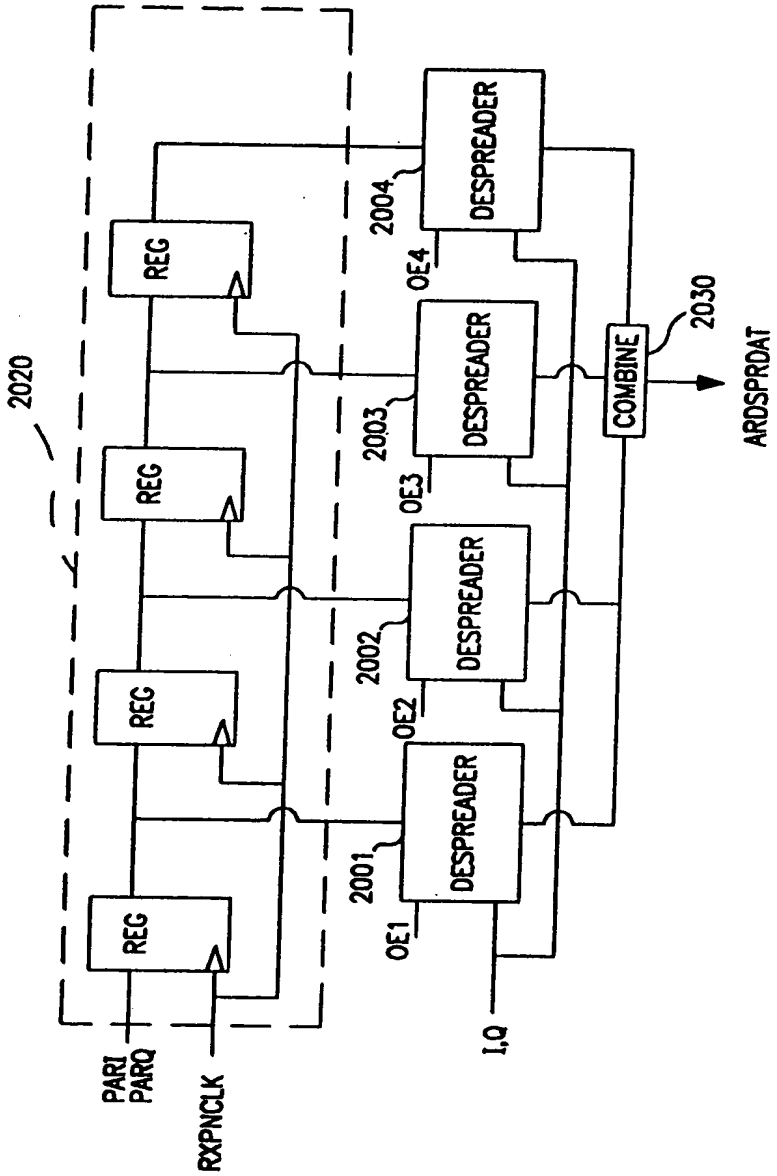

2020
REG
REG
REG
REG
PARI
PARQ
RXPNCLK
I,Q
2001
2002
2003
2004
DESPREADER
DESPREADER
DESPREADER
DESPREADER
OE1
OE2
OE3
OE4
COMBINE
2030
ARDSPRDAT

FIG. 18